treating said sample with a substance that cleaves said template nucleic acid without substantially cleaving said synthetic nucleic acid, and subjecting said treated sample to an analytical procedure, wherein said analytical procedure is selected from the group consisting of gel electrophoresis, anion-exchange chromatography, size-exclusion chromatography, pulse-field electrophoresis, polyacrylamide gel electrophoresis, sieving gel electrophoresis, Northern analysis, or Southern analysis.

2. (Canceled) The method of claim 1, further comprising subjecting said treated sample to said analytical procedure.

3. (Canceled) The method of claim 2, said analytical procedure being selected from the group consisting of gel electrophoresis, anion-exchange chromatography, size-exclusion chromatography, pulse-field electrophoresis, polyacrylamide gel electrophoresis, sieving gel electrophoresis, capillary electrophoresis, Northern analysis, Southern analysis, or DNA sequencing.

4. (Canceled) In a capillary-based DNA sequencing reaction wherein a nucleic acid sample is generated comprising template nucleic acid and synthetic nucleic acid, the improvement whereby after the sequencing reaction and prior to electrophoretic analysis of the nucleic acid sample, said sample is treated with a substance that cleaves the template nucleic acid and does not substantially cleave the synthetic nucleic acid.

5. (Canceled) In an amplification reaction wherein a nucleic acid sample is generated comprising template nucleic acid and synthetic nucleic acid, the improvement whereby after the amplification reaction and prior to analysis of the nucleic acid sample, said sample is treated with a substance that cleaves the template nucleic acid and does not substantially cleave the synthetic nucleic acid.

6. (Currently Amended) In a transcription reaction wherein a nucleic acid sample is generated comprising template nucleic acid and synthetic RNA, the improvement whereby after the transcription reaction and immediately prior to the analysis of the RNA sample, said nucleic acid sample is treated with a substance that cleaves the template nucleic acid and does not substantially cleave the RNA, wherein said substance is a restriction enzyme.

7. (Currently Amended) The method of claim 1[, 4, 5, or 6], wherein said synthetic nucleic acid is synthesized from said template.

8. (Currently Amended) The method of claim 1, [or 5,] wherein said synthesized nucleic acid is synthesized in a reaction selected from the group consisting of sequencing reactions, self-sustained sequence replication amplification, transcription based amplification, strand displacement amplification, ligation chain reaction, nucleic acid-based amplification, or oligonucleotide ligation assay.

9. (Original) The method of claim 6, wherein the template nucleic acid is DNA and the synthetic nucleic acid is RNA.

10. (Canceled) The method of claim 8, wherein said synthesized nucleic acid is synthesized in a sequencing reaction.

11. (Currently Amended) The method of claim 1, [4, 5, or 6,] wherein said substance is a restriction enzyme.

12. (Original) The method of claim 11, wherein said restriction enzyme specifically cleaves nucleic acid comprising modified residues, without substantially cleaving un-modified residues.

13. (Original) The method of claim 11, wherein said restriction enzyme specifically cleaves nucleic acid comprising un-modified residues, without substantially cleaving modified residues.

14. (Original) The method of claim 11, wherein said restriction enzyme specifically cleaves double stranded nucleic acid, without substantially cleaving single stranded nucleic acid.

15. (Currently Amended) The method of claim 1, [4, 5, or 6,] wherein said template nucleic acid is a double stranded nucleic acid.

16. (Currently Amended) The method of claim 1, [4, 5, or 6,] wherein said synthetic nucleic acid is a single stranded nucleic acid.

17. (Original) The method of claim 15, wherein said double-stranded template is produced in cells which incorporate methylated adenine residues into DNA molecules during replication.

18. (Original) The method of claim 17, wherein said cell is a dam+ E. coli cell.

19. (New) The method of claim 6, wherein said synthetic RNA is synthesized from said template.

20. (New) The method of claim 6, wherein said restriction enzyme specifically cleaves nucleic acid comprising modified residues, without substantially cleaving un-modified residues.

21. (New) The method of claim 6, wherein said restriction enzyme specifically cleaves nucleic acid comprising un-modified residues, without substantially cleaving modified residues.

22. (New) The method of claim 6, wherein said restriction enzyme specifically cleaves double stranded nucleic acid, without substantially cleaving single stranded nucleic acid.

23. (New) The method of claim 6, wherein said template nucleic acid is a double stranded nucleic acid.

24. (New) The method of claim 6, wherein said synthetic nucleic acid is a single stranded nucleic acid.

25. (New) The method of claim 23, wherein said double-stranded template is produced in cells which incorporate methylated adenine residues into DNA molecules during replication.

26. (New) The method of claim 25, wherein said cell is a dam+ E. coli cell.